

Review and Assessment

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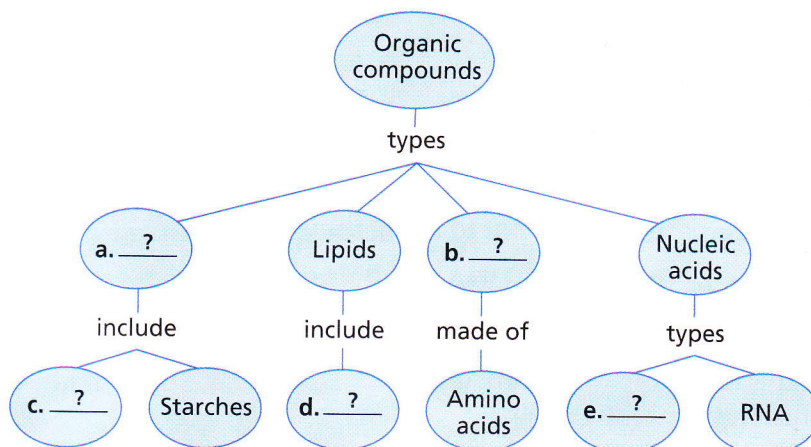
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Organizing Information

Concept Mapping Copy the concept map. Then complete the map to show the types of organic compounds. (For more about Concept Mapping, see the Skills Handbook.)



Reviewing Key Terms

Choose the letter of the best answer.

- All living things are composed of
 - blood.
 - chloroplasts.
 - vacuoles.
 - cells.
- In plant and animal cells, the control center of the cell is the
 - chloroplast.
 - cytoplasm.
 - nucleus.
 - Golgi body.
- A storage compartment of the cell is the
 - cell wall.
 - lysosome.
 - endoplasmic reticulum.
 - vacuole.
- Starch is an example of a
 - nucleic acid.
 - protein.
 - lipid.
 - carbohydrate.
- The process by which water moves across a cell membrane is called
 - osmosis.
 - active transport.
 - organelle.
 - resolution.

If the statement is true, write **true**. If it is false, change the underlined word or words to make the statement true.

- Cells were discovered using electron microscopes.
- Ribosomes produce proteins.
- The cells of plants and animals lack nuclei.
- Both DNA and RNA are proteins.
- The cell membrane is selectively permeable.

Writing in Science

Dialogue A dialogue is a conversation. Write a dialogue that might have taken place between Schleiden and Schwann. The scientists should discuss their observations and conclusions.

Discovery
CHANNEL
SCHOOL

Cell Structure and
Function

Video Preview

Video Field Trip

▶ Video Assessment

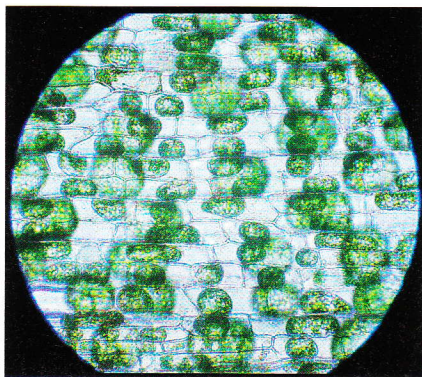
Review and Assessment

Checking Concepts

11. What role did the microscope play in the development of the cell theory?
12. Describe the function of the cell wall.
13. Explain the difference between elements and compounds.
14. How are enzymes important to living things?
15. What are the functions of DNA and RNA?
16. Why is water important in the cell?
17. What is diffusion? What function does diffusion have in the cell?
18. Explain the relationship between cell size and the movement of materials into and out of cells.

Thinking Critically

19. **Applying Concepts** Do the cells below come from a plant or an animal? Explain your answer.



20. **Comparing and Contrasting** How are plant and animal cells similar? How are they different? To answer these questions, make a list of the different organelles in each cell. Explain how each organelle is vital to the life and function of a plant or animal.
21. **Predicting** Suppose a cell did not have a supply of amino acids and could not produce them. What effect might this have on the cell?
22. **Comparing and Contrasting** Explain how active transport is different from osmosis.

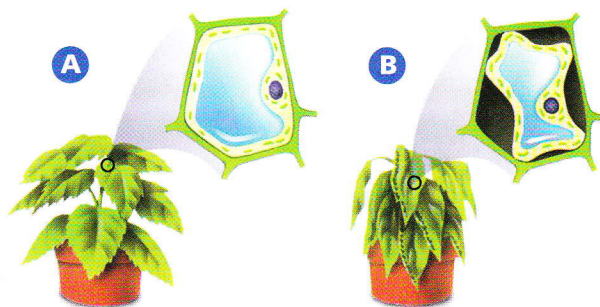
Math Practice

23. **Ratios** A solution consists of 24 g of table salt dissolved in 2 L of water. Express the concentration of salt in the form of a ratio.

Applying Skills

Use the diagrams to answer Questions 24–26.

A scientist watered the plant in Figure A with salt water. After 30 minutes, the plant looked as you see it in Figure B.



24. **Observing** How did the plant cells change after the plant was watered?
25. **Inferring** Describe a process that would lead to the changes in the plant cells.
26. **Developing Hypotheses** Suppose the scientist were to water the plant in B with fresh (unsalted) water. Develop a hypothesis about what would happen to the plant. Explain your hypothesis.

Lab
zone

Chapter Project

Performance Assessment Bring in your egg, graph, and any diagrams you made. As a class, discuss your results and conclusions. Then, as a group, try to answer these questions: What happened to the eggshell? What process took place at each stage of the experiment?